

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

RECEIVED

JUN 02 1999

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
)  
Revision of the Commission's Rules )  
To Ensure Compatibility With )  
Enhanced 911 Emergency Calling )  
Systems )

CC Docket No. 94-102

To the Commission:

**PETITION OF THE WIRELESS CONSUMERS ALLIANCE, INC.  
TO MODIFY 47 C.F.R. SECTIONS 20.18(e) & (f)**

In its Report and Order released on July 26, 1996, the Commission amended Part 20 of Title 47 of the Code of Federal Regulations, Section 20.18(e) to read as follows:

"As of [October 1, 2001], licensees subject to this section must provide to the designated Public Service Answering Point the location of a 911 call by longitude and latitude within a radius of 125 meters using root mean square techniques."

Section 20.18(f) goes on to provide that:

"The requirements set forth in paragraphs (d) and (e) of this section shall be applicable only if the administrator of the designated Public Service Answering Point has requested the services required under those paragraphs and is capable of receiving and utilizing the data elements associated with the service, and a mechanism for recovering the costs of the service is in place."

On December 24, 1998, the Commission's Wireless Telecommunications Bureau released a public notice that invited applications for waivers of Section 20.18(e) to permit the use of handset-based location solutions which use Global Positioning System

No. of Copies rec'd  
List ABCDE

044

("GPS") technologies. A large number of waivers have been filed in response to that notice.

The Wireless Consumers Alliance ("WCA") respectfully submits that the evidence in the record now shows that the network based solutions envisioned by the Commission in adopting Section 20.18(e) are so costly and inefficient that they will not be widely (if at all) deployed.

Accordingly, the WCA requests that the Commission:

- (1) Mandate the installation of enhanced GPS ("eGPS") capability in all newly manufactured handsets,
- (2) Require all wireless carriers to provide eGPS service to consumers, and
- (3) Delete the requirement in Section 20.18(f) that the Public Answering Point ("PSAP") must request such service.

## **BACKGROUND**

This rulemaking started with the issuance of a Notice of Proposed Rulemaking on October 19, 1994. At that time, the Commission said that "the most crucial E911 feature, the ability to report the caller's location to the PSAP," should be implemented over the next five years. On February 12, 1996, a "Consensus Agreement" was filed with the Commission by the Cellular Telecommunications Industry Association and three public safety organizations (NENA, APCO & NASNA) which proposed the adoption of the above referenced rules. These rules envisioned a network based Automatic Location Identification ("ALI") solution.<sup>1</sup>

---

<sup>1</sup> The Consensus agreement proposed, and the Commission adopted, a two phased step toward the Commission's objective. The first step, called Phase I, required the delivery of sector and calling party number information to the PSAP. Although Phase I has been in effect for over a year, only 2 percent of all

It was said that carriers would be anxious to install ALI equipment in order to gain a competitive advantage and to secure income from ancillary services such as vehicle location, etc. This has not proven to be the case. Instead, there has been a dispute between the public safety community and carriers over who would select the ALI equipment and how payment for the system would be accomplished. Carriers have uniformly resisted the imposition of any state mandated fees on users to pay for this equipment. At the same time, it is clear that the States are reluctant (if not unwilling) to pay for the substantial construction costs of these network based facilities from general funds. A privately funded test of the TruePosition network based ALI system is being conducted in Houston, Texas. According to an April 26, 1999, article in Wireless Week this system "has 'a major problem . . . on the edges of the cell sites.'" As a result, Wireless Week reports that one of the participants in the test, Houston Cellular, was threatening to withdraw. The following week, Wireless Week reported that a breach of contract suit has now been filed to prevent Houston Cellular from withdrawing from the test.

### **THE SHORTCOMINGS OF NETWORK BASED SOLUTIONS**

A network based solution is dependent upon triangulation and measurement of the time of travel of the signal from the caller's handset to the cell site. WCA has conducted a number of tests in connection with its proposal that 911 calls be connected over the best cellular channel available from either carrier. One of these tests concerned the Lechuga accident where the call was received by a single 360° sector cell located approximately 50 miles away near the border of that carrier's service area. In this instance, the only

---

PSAPs have installed the equipment necessary to use this information. The recent report of the Los Angeles County E9-1-1 Wireless Trial shows that the Phase I information is of little value.

location information that might have been provided using the network solution would have been that Lechuga was located 50 miles away with no direction information. The same single cell situation existed in the Blomme case, which was also investigated by WCA and reported to the Commission. This kind of ALI information is clearly inadequate.

It is now apparent that the ALI network solutions which have been developed are only effective when the calling party can be triangulated from three cell sites. When a signal from the calling party is received by two cell sites, two different disparate locations are reported. As noted above, in the instance where only one cell site is reached, the only information provided is the antenna sector which received the call and the distance of the caller from the cell site.

### **THE COST OF NETWORK BASED SOLUTIONS**

Although there is no published price list that we are aware of for network based equipment, Wireless Week reports that the cost to deploy the TruePosition system is \$30,000.00 per cell. We have heard prices for network based solutions ranging from \$30,000.00 to \$50,000.00 per cell plus 21 to 31 cents per subscriber per month. In addition, the cost to equip a PSAP to receive network based information is estimated to be from \$150,000 to \$300,000.

### **THE DEVELOPMENT OF HANDSET BASED SOLUTIONS**

Since the adoption of Section 20.18(e), several manufacturers have developed location services based on Global Positioning System (GPS) technologies. These systems have shown the ability to deliver very accurate location information from a wide range of environments, such as inside of cars and building structures. Unlike network

based systems, the accuracy of GPS information is not dependent on the caller's signal being received by more than one cell site. In the Blomme situation the GPS solution would have quickly delivered accurate, live saving information.

### **THE COST OF HANDSET BASED SOLUTIONS**

All cell sites are already equipped with GPS receivers which are used to synchronize the transmitters and receivers to the very accurate time base of the GPS system. It would be a trivial exercise to add capacity to this GPS equipment to enable it to send the appropriate GPS satellite information as part of the overhead message to a GPS equipped handset which could then respond with accurate latitude and longitude information concerning its location. The information from the handset should be included in the initial part of the 911 call and passed as part of the data to the PSAP. We understand that the equipment cost necessary to provide this enhanced GPS information is from \$80,000 to \$100,000 per wireless system.

A handset can be equipped with GPS capability by the addition of a chip to the bus. TI is currently offering such a chip for sale for \$3 to \$4 and the price is expected to drop to under a \$1. SnapTrack and Motorola have already entered into an agreement to incorporate SnapTrack's GPS technology in Motorola's wireless chip sets. Several vendors are discussing the feasibility of retrofitting existing handsets to add eGPS capability.

Finally, a PSAP can be equipped to receive eGPS information for under \$50,000.

### **POLICY CONSIDERATIONS**

The Commission initially set a target date of October of this year for the delivery of ALI information to PSAPs. In the meantime, the number of wireless 911 calls has

grown to as much as 30 percent of all emergency 911 calls. The inability to locate some callers has resulted in loss of life, lessened the chances of recovery from injury and wasted resources of emergency personnel, who have spent up to an hour or more (Blomme) to locate the wireless caller.

Commission reliance on a negotiated solution has been misplaced. The carriers clearly do not see a competitive advantage in the deployment of network based ALI or a market for ancillary concierge services which is sufficient to support the substantial investment required for network based systems. The public safety community is just as clearly unable to fund network based ALI systems without recourse to a fee on wireless subscribers, which fee the carriers vehemently oppose. The hope of funding from outside sources is fading as the disappointing results of the Houston TruePosition test become known. In sum, as a practical matter, we are not going to see the deployment of ALI network based services on the wide scale required by the public interest.

We recognize that it is unpopular to advocate the abandonment of an inadequate technology. It is more correct to say that the public will benefit from the “competition” between network and hand set based technologies. However, this is not the case. It is not in the public interest to have a ALI network based user roam into the service area of a handset based ALI system with the expectation that he/she can be located in an emergency. It is not in the public interest to have an ongoing debate between PSAP and carrier over who has the right to select which ALI system will be used. It is not in the public interest to have a tug of war over how an expensive network based ALI system will be paid for. It is not in the public interest to have a location system that will not provide precise information unless three cell sites receive the signal. It is in the public

interest to move forward with the deployment of a GPS solution which can be accomplished quickly and at relatively little expense.

Finally, we must express some privacy concerns. When 911 is dialed, the location information should be sent. In all other situations, the location of the consumer is the business of the consumer. This information must not be collected or used for any purpose which is not authorized or approved by the consumer.

### **CONCLUSION**

One way or another, consumers are going to pay for the life saving benefits of ALI. To ask consumers to pay an exorbitant amount for an inadequate network based ALI system is not in the public interest. Especially when, for a trivial expense, carriers can supply eGPS information to and from handsets equipped to use this information. The delivery of this information should be mandated and transparent to any handset. The cost of eGPS is so small that it makes no sense to mandate a cost recovery mechanism. Carriers should simply be required to allocate this cost among their customers as they see fit. All carriers should be required to offer eGPS on or before October 1, 2001.

The Commission should also require handset equipment manufacturers to include eGPS capability in all handsets manufactured on and after October 1, 2001.

Accordingly we recommend that Section 20.18(e) be amended to read as follows:

As of {October 1, 2001}, licensees subject to this section must provide to the designated Public Service Answering Point the location of a 911 call by longitude and latitude within a radius of 125 meters using root mean square techniques a continuously updated list of GPS satellites in view from the cell site as part of the overhead message to handsets and must deliver any GPS information received from the handset as part of the call.

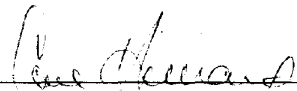
We suggest that Section 20.18(f) be amended by the deletion of the reference to

subsection (e). And, we recommend the adoption of a new section which shall read as follows:

As of October 1, 2001, all handsets shall be equipped with the capability to receive and send GPS information which shall show the latitude and longitude of the caller. Such information shall be sent whenever a call to 911 is placed and only sent in all other instances with the permission of the caller.

Respectfully Submitted,

Wireless Consumers Alliance, Inc.

By: \_\_\_\_\_

Carl Hilliard  
1246 Stratford Court  
Del Mar, CA 92014  
(619) 509-2938  
Facsimile: (619) 509-2937  
Email: [carl@wirelessconsumers.org](mailto:carl@wirelessconsumers.org)

June 1, 1999



### **CERTIFICATE OF SERVICE**

I, Carl Hilliard, hereby certify that on this 1<sup>st</sup> day of June, 1999, copies of the foregoing Petition to Modify 47 C.F.R. Sections 20.18(e) & (f) in CC Docket No. 94-102 were served by mail on the following:

Chairman William E. Kennard  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, D.C. 20554

Commissioner Gloria Tristani  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325

Commissioner Harold Furchtgott-Roth  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, D.C. 20554

Mr. Thomas Sugrue, Chief  
Wireless Telecommunications Bureau  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, D.C. 20554

Commissioner Susan Ness  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, D.C. 20554

Ms. Nancy Boocker, Acting Chief  
Wireless Telecommunications Bureau, Policy  
Division  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, D.C. 20554

Commissioner Michael Powell  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, D.C. 20554

Mr. Philip L. Verveer  
Willkie Farr & Gallagher  
Three Lafayette Centre  
1155 21<sup>st</sup> Street, N.W.  
Suite 600  
Washington, D.C. 20036  
Attorneys for TruePosition, Inc.

Mr. John Dion  
Associated Group  
3 Bala Plaza, Suite 502  
Bala Cynwyd  
PA, 19004

Mr. Michael Altschul, Vice President and  
General Counsel  
CTIA  
1250 Connecticut Avenue, N.W.  
Suite 200  
Washington, D.C. 20036

Peter M. Connolly  
Koteen & Naftalin, L.L.P.  
1150 Connecticut Ave., N.W.  
Washington, D.C. 20036  
Attorneys for United States Cellular  
Corporation

Mr. Thomas Dombrowsky  
Wiley, Rein & Fielding  
1776 K Street, N.W.  
Washington, D.C. 20006  
Attorneys for Motorola

Ms. Ellen Kirk  
SnapTrack, Inc.  
4040 Moorpark Ave., #250  
San Jose, CA 95117

Ms. Mary McDermott  
PCIA  
500 Montgomery Street, #700  
Alexandria, VA 22314

Mr. Robert B. Kelly  
Squire, Sanders & Dempsey  
1201 Pennsylvania Ave, N.W.  
P.O. Box 407  
Washington, D.C. 20044  
Attorneys for KSI

June 1, 1999

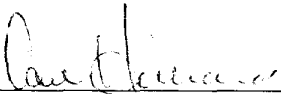
Mr. Michael R. Bennet  
Bennet & Bennet, PLLC  
1019 19<sup>th</sup> Street, Suite 500  
Washington, D.C. 20036  
Attorneys for Rural Telecommunications  
Group

Mr. Robert M. Gurss  
Wilkes, Artis, Hedrick & Lane, Chartered  
1666 K Street, N.W. #1100  
Washington, D.C. 20006  
Attorneys for APCO

Mr. James Hobson  
Donelan, Cleary, Wood & Maser  
1100 New York, # 750  
Washington, D.C. 20005  
Attorneys for NENA

Blumenfeld & Cohen  
Sumner Square  
1615 M Street, N.W., #700  
Washington, D.C. 20036  
Attorneys for SnapTrack, Inc.

Mr. Dan Schlager  
Zoltar Satellite Alarm Systems  
16 Barn Road  
Tiburon, CA 94920

  
\_\_\_\_\_  
Carl Hilliard